

**DATA SHEET - OPERATION MANUAL**

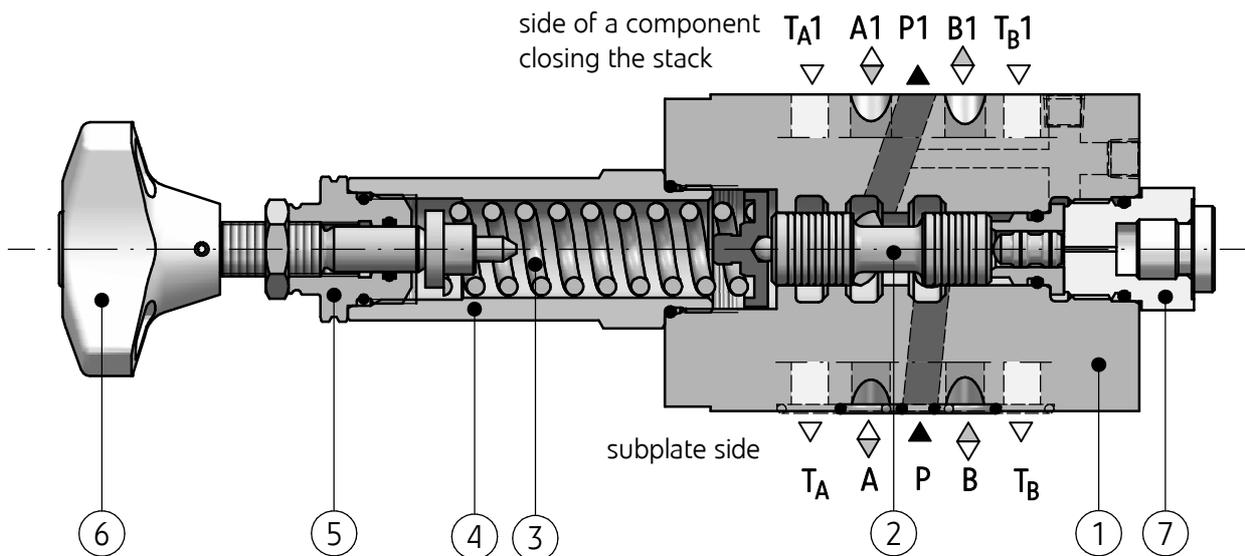
**APPLICATION**

The pressure reducing valve type **UZRC10...** is used to maintain pressure in hydraulic circuit behind the valve constant, on condition that pressure before the valve is higher. The valve can also be applied where undesirable pressure increase behind the valve may appear. An additional overflow controlling an excessive pressure increase is then open. The valve is designed to vertical stack mounting (sandwich plate) in optional operating position.



**DESCRIPTION OF OPERATION**

UZRC10/23 - 210 Y 1 P



The pressure reducing valve direct operated type **UZRC10...** basically consists of the housing (1), the spool (2), the spring (3) and the adjustment element (5). The pressure reducing function is realized in port **P1**, the pilot flow for version **UZRC10...P...** is taken internally from port **P1** or for version **UZRC10...PB...** from port **B1**. The spool (2) is affected by the reduced pressure on one side and the force of the spring (3) dependent on its deflection on the opposite. The spring (3) force is set by turning the hand knob (6) of the adjustment element (5) fitted in the sleeve (4). In the initial position the valve is open and allows free flow from port **P** to **P1**. If pressure exceeds the value set at

the spring (3), the spool (2) shifts and closes yet open flow connection from **P** to **P1**. That will be followed by larger throttling of flowing fluid and in the result maintaining the pressure value behind the valve in port **P1** constant, set before by means of adjustment element (5). If the pressure rises still further due to external load of the receiver the connection **P** to **P1** is cut off. The further shifting of the spool (2) causes the overflow from **P1** to **T** to be opened, preventing any further pressure rise. The adjustment element chamber (5) is always drained via separate internal line to port **T** (Y). The pressure gauge port (7) permits the outlet pressure at the valve to be monitored.

## TECHNICAL DATA

Hydraulic fluid	mineral oil	
Required fluid cleanliness class	ISO 4406 class 20/18/15	
Nominal fluid viscosity	37 mm <sup>2</sup> /s at temperature 55 °C	
Viscosity range	2,8 up to 380 mm <sup>2</sup> /s	
Fluid temperature range (in a tank)	recommended	40°C up to 55°C
	max	-20°C up to +70°C
Ambient temperature range	-20°C up to +70°C	
Maximum operating pressure (at inlet connection)	ports P, A, B	31,5 MPa
	port T	1,5 MPa
Maximum set pressure (in port P)	21 MPa (for the pressure 0 MPa in port T)	
Maximum flow	54 dm <sup>3</sup> / min	
Weight	3 kg	

## INSTALLATION AND OPERATION REQUIREMENTS

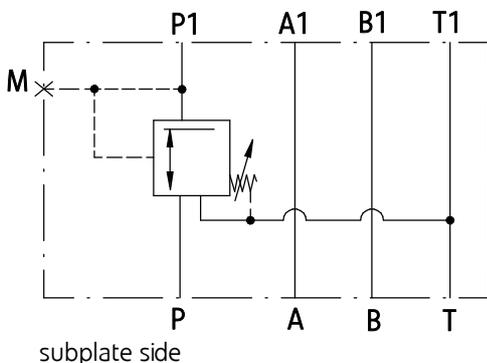
1. Only fully functional and operational valve must be used.
2. During the period of operation must be kept fluid viscosity acc. to requirements defined in this Data Sheet - Operation Manual
3. In order to ensure failure free and safe operation the following must be checked:
  - proper working of the valve
  - cleanliness of the hydraulic fluid
4. Due to heating of valve body to high temp., the valve shall be placed in such way to eliminate the risk of accidental contact with the valve body during operation or to apply suitable covers acc. to PN-EN ISO 13732 - 1 and PN - EN 982
5. In order to provide proper tightness of the valve connection to a hydraulic system, one should ensure dimension of sealing rings, tightening torques and valve operation parameters as specified in this Data Sheet - Operation Manual.
6. A person that operates the valve must be thoroughly familiar with this Data Sheet - Operation Manual.

## DIAGRAMS

Hydraulic diagrams of valve type UZRC10...

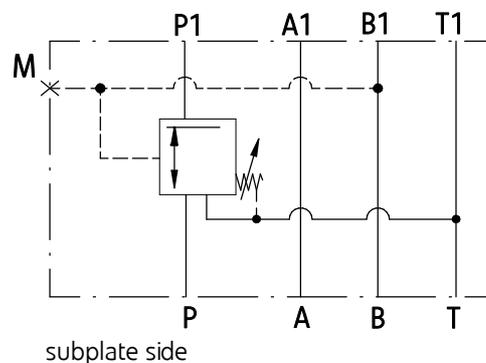
version UZRC10/23...Y...P...

side of a component closing the stack

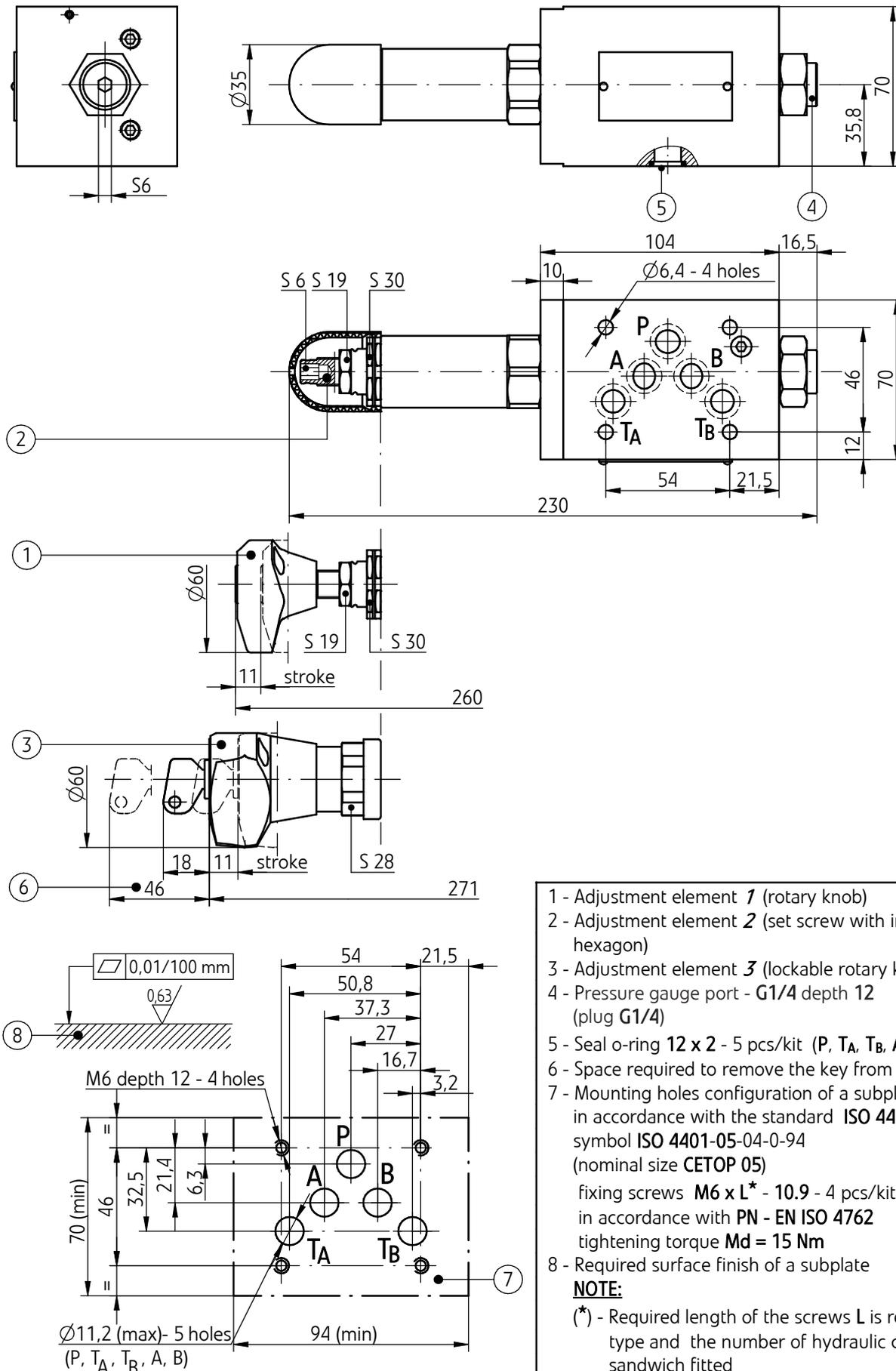


version UZRC10/23...Y...PB...

side of a component closing the stack



# OVERALL AND CONNECTION DIMENSIONS



- 1 - Adjustment element 1 (rotary knob)
- 2 - Adjustment element 2 (set screw with internal hexagon)
- 3 - Adjustment element 3 (lockable rotary knob)
- 4 - Pressure gauge port - G1/4 depth 12 (plug G1/4)
- 5 - Seal o-ring 12 x 2 - 5 pcs/kit (P, T<sub>A</sub>, T<sub>B</sub>, A, B)
- 6 - Space required to remove the key from the lock
- 7 - Mounting holes configuration of a subplate in accordance with the standard ISO 4401 symbol ISO 4401-05-04-0-94 (nominal size CETOP 05) fixing screws M6 x L\* - 10.9 - 4 pcs/kit in accordance with PN - EN ISO 4762 tightening torque Md = 15 Nm
- 8 - Required surface finish of a subplate

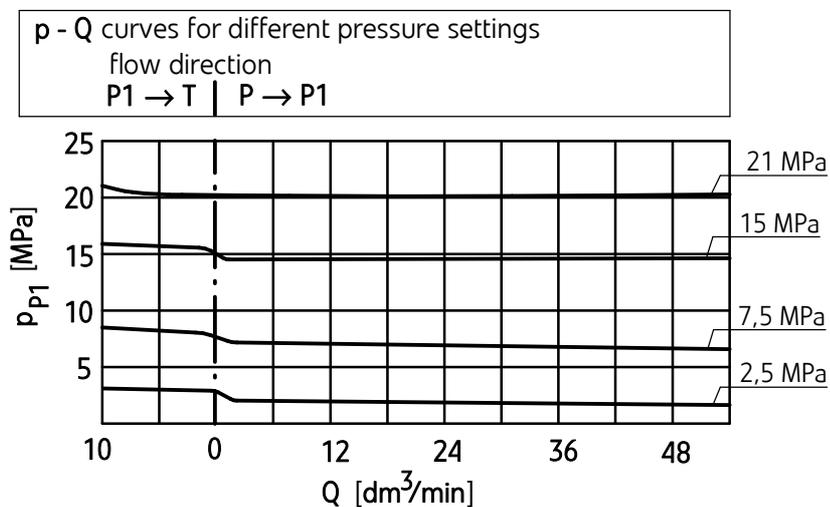
**NOTE:**

(\*) - Required length of the screws L is related to type and the number of hydraulic components sandwich fitted

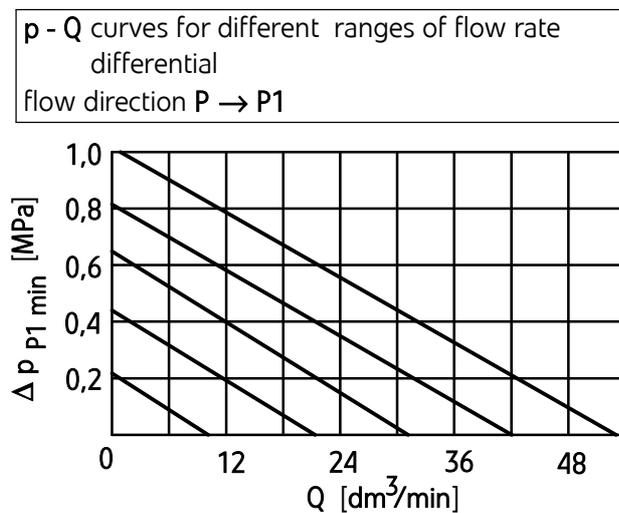
## PERFORMANCE CURVES

measured at viscosity  $\nu = 41 \text{ mm}^2/\text{s}$  and temperature  $t = 50^\circ\text{C}$

Characteristic curves of outlet pressure in relation to flow rate



Characteristic curves of minimum pressure drop in relation to flow rate in the direction of flow P - P1



## HOW TO ORDER

<b>UZRC</b>	<b>10</b> /	+	<b>Y</b>					★
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**Nominal size (NS)**

**NS10**

= 10

**Series number**

(20-29) - connection and installation dimensions unchanged = 2X

**series 23**

= 23

**Settable pressure range**

up to 2,5 MPa

= 25

up to **7,5 MPa**

= **75**

up to 15 MPa

= 150

up to **21 MPa**

= **210**

**Controlling circulation**

**internal pilot flow supply, internal leakage drain** (for all valve versions) = **Y**

**Adjustment element**

rotary knob

= 1

**set screw with internal hexagon**

= **2**

lockable rotary knob

= 3

**Way of operation** (according to schemes on page 2)

**pressure reduction in port P1, pilot oil supply from port P1**

= **P**

pressure reduction in port P1, pilot oil supply from port B11

= PB

**Sealing**

**NBR** (for fluids on mineral oil base)

= **no code**

FKM (for fluids on phosphate ester base)

= V

Further requirements in dear text

(to be agreed with the manufacturer)

### NOTES:

The pressure reducing valve should be ordered according to the above coding.

The symbols in bold are the preferred versions available in short delivery time.

Coding example: UZRC10/23 - 210 Y 2 P

## SUBPLATES AND FIXING SCREWS

Subplates must be ordered according to catalogue sheet **WK 496 520**. Subplate symbols:

G 66/01 - threaded connections G 3/8

**G 67/01** - threaded connections **G 1/2**

G 89/01 - threaded connections G 1/4

G 67/02 - threaded connections M22 x 1,5

Subplates and screws fixing the pressure reducing valve **M6 x L\*** - 10,9 - 4 pcs/kit in accordance with **PN - EN ISO 4762** must be ordered separately.

Tightening torque **Md = 15 Nm**

### NOTES:

(\*) - Required length of the screws **L** is related to type and the number of hydraulic components sandwich fitted.

The subplate symbol in bold is the preferred version available in short delivery time.

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